



ABAC ODI JOURNAL Vision. Action. Outcome

ISSN: 2351-0617 (print), ISSN: 2408-2058 (electronic)

Self-regulation through Goal-Problem-Oriented Teaching Mode in EFL Writing Classrooms

Feifei Guo, Joseph Foley, Marilyn Fernandez Deocampo

ABAC ODI JOURNAL Vision. Action. Outcome Vol 12(1) pp. 196-212

<http://www.assumptionjournal.au.edu/index.php/odijournal>

Published by the
Organization Development Institute
Graduate School of Business and Advanced Technology Management
Assumption University Thailand

ABAC ODI JOURNAL Vision. Action. Outcome
is indexed by the Thai Citation Index and ASEAN Citation Index

Self-regulation through Goal-Problem-Oriented Teaching Mode In EFL Writing Classrooms

Feifei Guo¹, Joseph Foley², Marilyn Fernandez Deocampo³

¹Corresponding Author, Lecturer, Guangdong University of Petrochemical Technology, China. Email:214617320@qq.com

²Second Author, Senior Lecturer, Assumption University of Thailand, Thailand. Email: jfoley@au.edu.

³Third Author, Lecturer, Assumption University of Thailand, Thailand. Email: mdeocampo@au.edu.

Received: 23 January 2024. Revised: 15 March 2024. Accepted: 3 April 2024

Abstract

This study investigates the impact of implementing the Goal-Problem-Oriented teaching mode, combined with Pintrich's self-regulation framework, on students' English writing proficiency and their perceptions of self-regulated learning (SRL) writing strategies. A mixed-method research design involving quantitative and qualitative data collection methods was employed. The study was conducted in an English as a Foreign Language (EFL) classroom setting, adding validity to the findings. The results demonstrate a positive influence of the intervention, with students improving their writing proficiency and exhibiting increased awareness of SRL writing strategies. However, it is vital to acknowledge the limitations of this study, including the small sample size and the use of convenience sampling. Overall, it is hoped that the study will make valuable contributions to the growing body of research on integrating SRL and writing instruction in EFL settings, emphasizing the significance of authentic contexts and practical applications in enhancing students' writing abilities and fostering self-regulated learning skills.

Keywords: EFL writing classrooms, goal-problem-oriented teaching mode, self-regulation

Introduction

Self-regulated learning is essential to academic success, particularly in English as a Foreign Language (EFL) writing classrooms. The ability to effectively self-regulate one's learning process and navigate the challenges of writing in a second language is crucial for students' language development and overall academic achievement (Zimmerman & Bandura, 1994). Language education is essential for all individuals, and the proficiency to effectively communicate in a second or foreign language has become essential for well-educated individuals in the modern era. Among the four language skills, writing poses difficulty for teachers and learners (Hussain et al., 2015). Writing is a multidimensional task encompassing various elements and is influenced by personal and environmental factors. It involves a structured process that includes aspects such as motivation, working memory, cognitive and meta-cognitive processes, and the context in which the writing task is undertaken (Flower &

Hayes, 1981). In social cognitive theory, the regulation of one's motivation and learning is influenced by various factors that interact and are expected to impact the self-management of writing activities. In the EFL classroom, self-regulation plays a crucial role in learning as students engage in goal setting, monitoring, and controlling their cognitive activities. It is closely intertwined with students' learning outcomes and academic performance. Students become active agents in their learning journey by actively constructing knowledge and skills. By implementing self-regulatory strategies, students enhance their academic achievement and develop a deeper understanding of the subject matter. Self-regulation empowers students to take ownership of their learning, leading to more meaningful and successful educational experiences (Pintrich, 2000). An increasing recognition exists regarding the pivotal role of strategic, self-regulated learning in second/foreign language (L2) teaching and learning (Akhmedjanova & Moeyaert, 2022; Teng & Zhang, 2020). This recognition aims to foster self-regulated learners with independence, competence, and a goal-oriented approach equipped with lifelong learning strategies. Researchers such as Csizér and Tankó (Csizér & Tankó, 2017) and Zhang et al. (Zhang et al., 2019) have underscored the importance of promoting self-regulated learning in L2 education. Consequently, there has been growing interest in exploring innovative teaching approaches that foster self-regulated learning in EFL writing classrooms.

One such approach is Problem-Oriented Teaching Mode by Wang et al. (2022), which emphasizes active student engagement, problem-solving, and self-directed learning. This teaching mode encourages students to take ownership of their learning process and develop strategies to overcome writing challenges. By incorporating real-world problems and authentic writing tasks into the curriculum, students are motivated to apply their language skills in meaningful contexts and develop critical thinking abilities.

This study aims to investigate the impact of Goal-Problem-Oriented Teaching Mode on self-regulated learning in EFL writing classrooms. The conceptual framework adopted in the present study is Pintrich (2004) SRL model, regarded as an essential perspective in research on college and university student motivation and learning. This model is widely recognized in research on student motivation and learning in higher education. In particular, it encompasses cognitive, motivational, affective, and social contextual factors, providing a more inclusive understanding of student learning (Pintrich, 2004).

In light of the importance of self-regulation in language learning and the potential benefits of the Problem-Oriented Teaching Mode, this study addresses the following research questions:

1. To what extent does the Problem-Oriented Teaching Mode enhance students' self-regulated learning and writing in EFL writing classrooms?
2. What are the perceptions and experiences of students regarding the effectiveness of the Goal-Problem-Oriented Teaching Mode in developing their self-regulated learning skills in EFL writing?

By investigating two research questions, this study aims to contribute to understanding self-regulated learning in EFL writing contexts and provide insights into implementing practical instructional approaches that promote students' autonomy, metacognitive skills, and reflective thinking in the writing process. Cross-disciplinary understanding of SRL strategies

is crucial for advancing the theoretical functions of self-regulation theory and extending its application to L2 learning, particularly in L2 writing(Teng & Zhang, 2020). The results of this empirical study have the potential to enhance the development of writing courses by integrating SRL strategies to foster successful learning outcomes in EFL writing.

Literature Review

SRL Strategies

Over twenty years ago, the academic learning and performance field saw the emergence of research focused on self-regulation, aiming to understand how students take control of their learning processes(Teng & Zhang, 2020). Unlike traditional assessments of cognitive abilities or academic skills, self-regulated learning (SRL) encompasses the self-directed processes and self-beliefs that empower learners to effectively utilize their cognitive abilities, such as verbal aptitude, to develop academic skills like writing(Zimmerman, 2008). SRL is characterized as proactive processes students employ to acquire academic competence, including goal setting, strategy selection and implementation, and self-monitoring of performance, rather than being solely influenced by external factors. Nevertheless, the development of self-regulation is not effortless and requires educators to employ instructional strategies that cultivate students' self-regulatory skills. Multiple studies have demonstrated that learners naturally engage in self-regulated learning (SRL), and SRL's effectiveness is linked to students' academic achievements across different age groups and educational levels (Dent & Koenka, 2016; Mullen, 2011; Winne, 2005).

Given that SRL possesses characteristics of a learnable skill, it is essential to provide adequate scaffolding to enable learners to develop proficiency in SRL. Few studies have indicated that explicit instruction can facilitate students' self-regulated learning (Mak & Wong, 2018). SRL interventions have been designed and implemented in various domains, encompassing mathematics, science, reading, writing, history, and online learning environments (Dignath & Büttner, 2008; Greene et al., 2015; Wong et al., 2019). In the EFL writing literature, empirical research suggested that SRL instruction is needed to improve students' writing outcome(Sun & Wang, 2020). To address this research gap, the current study investigates the role of problem-oriented teaching mode in fostering college students' selfregulation skills in EFL writing classrooms.

Pintrich's four cyclical steps that promote self-regulation are applied in this study : (1) forethought, planning, and activation; (2) monitoring; (3) control; and (4) reaction and reflection (Pintrich, 2004) (see table 1). The adoption of this framework is based on its alignment with the cognitive processes involved in writing activities. Employing this model for explicit instruction of self-regulation strategies not only enhances students' writing performance but also improves their level of self-regulated writing strategies.

Table 1

Phases and Areas for Self-Regulated Learning

Phases and Areas for Self-Regulated Learning				
Areas for regulation				
Phases	Cognition	Motivation/Affect	Behavior	Context
<i>Phase 1</i> Forethought, planning, and activation	Target goal setting	Goal orientation adoption	Time and effort planning	Perceptions of task
	Prior content knowledge	Efficacy judgments	Planning for self- observations of	Perceptions of context

Phases and Areas for Self-Regulated Learning				
Areas for regulation				
Phases	Cognition	Motivation/Affect	Behavior	Context
	activation		behavior	
	Metacognitive knowledge activation	Perceptions of task difficulty		
		Task value & Interest activation		
<i>Phase 2</i> Monitoring	Metacognitive awareness and monitoring of cognition	Awareness and monitoring of motivation and affect	Awareness and monitoring of effort, time use, need for help	Monitoring changing task and context conditions
			Self-observation of behavior	
<i>Phase 3</i> Control	Selection and adaptation of cognitive strategies for learning, thinking	Selection and adaptation of strategies for managing, motivation, and affect	Increase/decrease effort	Change or renegotiate task
			Persist, give up Help-seeking behavior	Change or leave context
<i>Phase 4</i> Reaction and reflection	Cognitive judgments	Affective reactions	Choice behavior	Evaluation of task
	Attributions	Attributions		Evaluation of context

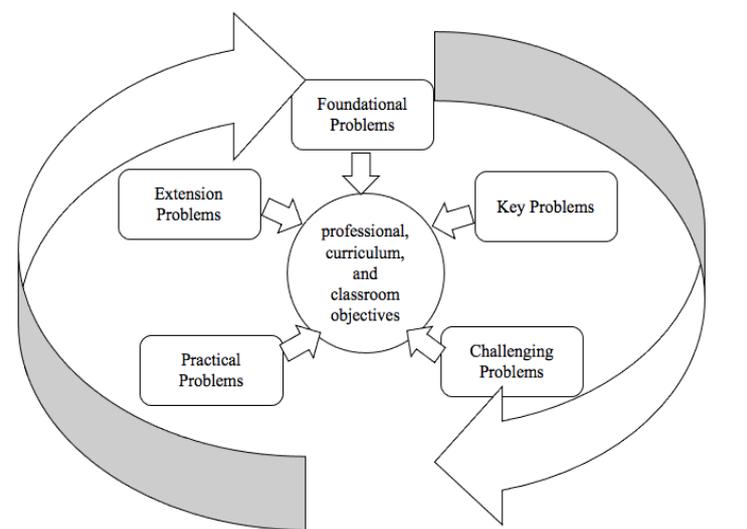
Goal Problem-Oriented Teaching Mode

The Goal Problem-Oriented Teaching Mode, or The Objective-Problem-Oriented Teaching Mode, is a model derived from long-term teaching practices and instructional management, focusing on talent cultivation. It is the culmination of analyzing, reflecting upon, and summarizing the teaching process, aiming to serve as a comprehensive exploration and summary of higher education teaching reform and strategies for enhancing teaching and the quality of talent development. It is an exploratory approach to teaching and talent development, characterized by a hierarchical structure of three major goals and five fundamental problems. The objectives, namely professional, curriculum, and classroom objectives, serve as the core and provide direction. The five fundamental problems are interrelated and progressive, with the formulation and resolution of problems forming the basis for achieving the objectives. These problems include fundamental problems, key problems, challenging problems, practical problems, and extension problems. Based on the Problem-Oriented Teaching Mode, the emphasis is placed on the role of problems. Behind the design of these problems lies a focus on coherence and relevance, shifting from a pursuit of causality to an emphasis on correlation and from simple thinking to complex thinking. This approach also guides students to construct knowledge actively and aligns with epistemological principles (Wang et al., 2022).

In the Goal-Problem-Oriented Teaching Mode, goals and problems are aligned, with goals accumulated through resolving individual problems, leading to quantitative and qualitative changes. The resolution of a single problem represents a quantitative change, while the resolution of a series of problems brings about a qualitative change (Greasley & Ashworth,

2007). Each problem is accompanied by assessment criteria that align with the three primary goals. These criteria serve as a means for teachers to evaluate students' learning outcomes while enabling students to engage in self-assessment and peer assessment of their learning effectiveness based on these established criteria. This mode embodies the epistemological perspective that shifts from traditional teacher-centered instruction to guide students to engage in learning actively. The core of traditional teaching lies in imparting knowledge, whereas the core of guiding students' active learning lies in developing their thinking, abilities, and knowledge (Wang et al., 2022). In this teaching mode, teachers explain the five problems in instructional design. Students actively learn by resolving these problems and developing self-regulated learning strategies.

Figure 1



Note: The Goal-Problem-oriented Teaching Mode adapted from Wang et al. (2022)

By integrating this goal-oriented five problems teaching mode into Pintrich (2004) SRL Model, an SRL-based L2 writing intervention was carried out in the present study.

Research Methodology

The context and the Participants of the Study

College English is a fundamental component of higher education, playing a crucial role in fostering the harmonious development of students' knowledge, skills, and overall qualities. As the primary focus of foreign language education at the university level, College English is a compulsory core course for most non-English students during their undergraduate studies in China (Education, 2020). Starting from the first year of college, the curriculum of College English encompasses four key aspects: listening, speaking, reading, and writing. However, the teaching effectiveness of English writing has long been a concern. Various factors, such as limited instructional time and large class sizes, require more support for instructors to enhance

the quality of instruction.

Similarly, EFL students indicated moderate self-efficacy and low frequency in employing self-regulated learning (SRL) strategies during the writing process (Sun & Wang, 2020). Their motivation for English writing often needs to improve, with many perceiving writings tasks as passive assignments rather than engaging language production activities. Given these prevailing issues in English writing instruction, striving for greater teaching efficiency and fostering students' autonomous learning is imperative. Consequently, this research draws on the goal-oriented teaching model, which has demonstrated positive outcomes in multiple courses at the researcher's working university (Guangdong University of Petrochemical Technology), to explore its potential for elevating students' self-regulated learning strategies and improving English writing instruction.

The study included a group of 69 first-year non-English major students. They are all students from the Industrial Design Major. According to the arrangement by the school's academic affairs office, they have the same English teacher for their classes. They attend their listening and speaking classes and reading and writing classes together. According to the teaching plan outlined in the curriculum, first-year undergraduate students had four English language lessons per week, with one lesson specifically focused on writing. During these classes, they engaged in in-class writing activities and were typically given around 45 minutes to complete a writing task.

Table 2

Demographic Information of the participants

Category	N
Age 18-19	69
Gender	
Female	43
Male	26
Years of English learning	
9years	60
8years	9
English scores in NCEE	
80-100(150)	58
100-120(150)	11

Note: NCEE stands for China National College Entrance Examination in China. The maximum score for NCEE in English is 150 points.

Instruments

Writing Strategies for Self-regulated Learning Questionnaire (WSSRLQ)

A key research instrument utilized in this study was a questionnaire. The 30 questions were selected from Teng and Zhang's (Teng & Zhang, 2016). It was a self-report questionnaire utilizing a seven-point Likert scale, encompassing responses ranging from 1 (not at all true of me) to 7 (very true of me). The questionnaire assessed self-regulated learning (SRL) strategies within second language (L2) writing. Its construction aimed to capture task-specific nuances and provide a contextually grounded evaluation of SRL strategies in L2 and EFL writing contexts. Teng and Zhang (2016) assessed its reliability, including internal reliability and its

validity, encompassing content validity, construct validity, predictive validity, convergent validity, and discriminant validity. The results of their evaluation indicated satisfactory outcomes, affirming the measurement's robustness and suitability for use in the specified contexts. For the present study, 30 questions were adapted. These 30 questions were considered to adequately represent the writing strategies that demonstrate the predictive effects of the SRL-based writing intervention on students' writing performance. The assessment covered four aspects of self-regulated learning (SRL) strategies: cognitive strategies (such as text processing), meta-cognitive strategies (including goal-oriented monitoring and idea planning), social behavior strategies (such as feedback handling), and motivational regulation strategies (including motivational self-talk and emotional control).

However, the data analysis of the questionnaire used in the present study revealed that item GME3 had a factor loading below 0.5, and item MST4 had factor loadings exceeding 0.5 on two factors simultaneously. Therefore, these two items, namely item 12 and item 23, were removed.

Consequently, the content of the pre-and post-test questionnaires used in the present study consisted of 28 items and is presented in Table 3. The detailed questionnaires can be found in Appendix A.

Table 3

Dimensions of SRL strategies	Writing Strategies under SRL Strategies	Target item
Cognition	Text Processing (TP)	Q1-6
Metacognition	Idea Planning (IP)	Q7-9
	Goal-Oriented Monitoring and Evaluating (GME)	Q10-14
Social Behavior	Feedback Handling (FH)	Q15-18
Motivational Regulation	Motivational Self-Talk (MST)	Q19-25
	Emotional Control (EC)	Q26-28

Note: Content of WSSRLQ (Teng & Zhang, 2016)

The Writing Test

This study utilized pre-test and post-test writing prompts exclusively consisting of exposition essay prompts, carefully selected from writing tests extracted from the College English Test Band 4 (CET-4), a standardized English proficiency examination mandatory for non-English major undergraduate students at the tertiary level in China. In the present study, the exposition genre includes argumentative and persuasive essay. As Hirvela contends, "the competence to compose compelling argumentative essays signifies a vital facet of L2 writing ability." (Hirvela, 2017) Within the Chinese tertiary education milieu, university students encounter linguistically intricate and issue-driven assessments spanning diverse academic disciplines, necessitating the production of persuasive essays (Huang & Jun Zhang, 2020).

In the present study, all participants were administered two in-class writing tasks, one at the onset and another after the intervention. Each task required students to compose an essay with a minimum length of 120 words, responding to a specific prompt encompassing a title and an outline of information. A time limit of 30 minutes was allotted for completing each task. While the difficulty level of the writing tests remained consistent, they encompassed distinct

topics. A counterbalanced design was employed to mitigate potential confounding effects arising from task variability, wherein half of the students received Task A in the pre-test.

In contrast, the remaining half received Task B. The task allocation was reversed in the post-tests, ensuring all participants had an equitable opportunity to engage with different writing tasks. For reference, the writing tasks employed in this study are presented in Appendix B.

The assessment method for the writing test in the present study is i-Write2.0, an automated English composition evaluation system widely used in Chinese university English writing instruction. The iWrite engine considers students' compositions based on four aspects: language (fluency, accuracy, and complexity), content (relevance and coherence), discourse structure (paragraph organization and discourse markers), and technical standards (spelling and punctuation). The machine scoring of iWrite 2.0 is nearly comparable to human scoring (Li & Tian, 2018). Previous research has indicated that iWrite 2.0 has reached a level of reliability that allows for widespread application in exams and everyday writing instruction (Luan & Dong, 2022).

Focus Group Interviews

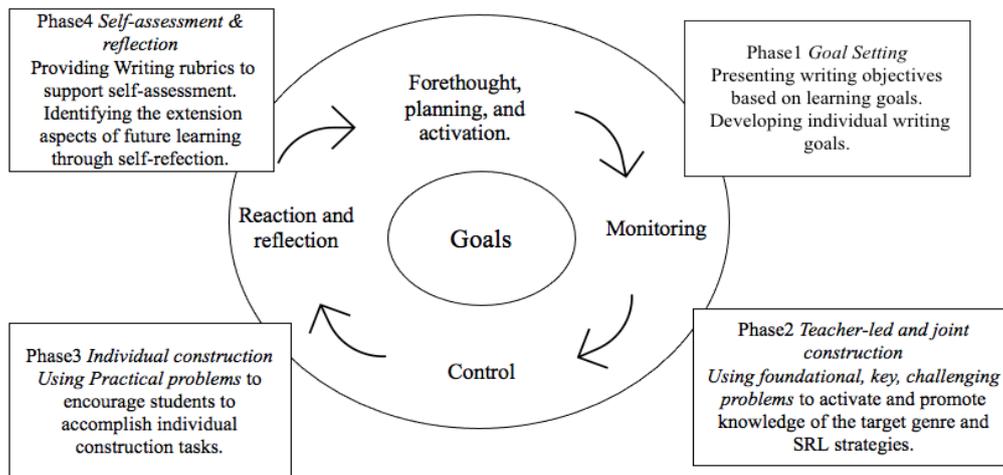
Focus group interviews were conducted with the participants to inquire about their perceptions of the Goal-problem-oriented SRL writing instruction at the end of the intervention. Focus groups offer several benefits in situations where interaction among participants is expected to generate valuable information, when the participants share similarities and demonstrate cooperative behavior, when there are time constraints for data collection, and when individuals may be reluctant to provide information in one-on-one interviews (Krueger, 2014). The interview questions data were organized and summarized through qualitative analysis to reveal participants' perceptions and insights regarding the teaching mode and collect qualitative data to provide a fuller picture of a group of participants' SRL strategies awareness (Johnson & Christensen, 2019). Throughout the research process, strict adherence to ethical principles were maintained to protect the rights and privacy of the participants. For reference, the interview questions employed in this study are presented in Appendix C.

To select participants for the focus group interviews, a random sampling approach was employed. Three students were selected by drawing lots to serve as recorders, while the remaining 66 students were randomly divided into groups of six to participate in the focus group interviews.

Goal- problem-oriented SRL writing instruction

The development of the Goal-problem-oriented SRL strategies-based writing instruction was based on the integration of the Goal-problem-oriented teaching approach and Pintrich's Self-Regulated Learning (SRL) framework, with adaptations made to suit the specific context of English as Foreign Language (EFL) writing.

As shown in Fig. 2, the instructional model included four recursive phases: forethought, planning, and activation; (2) monitoring; (3) control; and (4) reaction and reflection.

Figure 2*Goal- problem-oriented SRL Writing Instruction Model*

Phase 1 *Goal setting*. Entailing planning, goal setting, and the activation of perceptions, task-related knowledge, and self-awareness within the task and contextual framework. Under the Goal-Problem-Oriented Instructional Model, the establishment of classroom objectives is undertaken. As the facilitator of instructional activities within the Goal-Problem-Oriented approach, the teacher, at the onset of the class, formulates specific classroom objectives in alignment with the goals of talent development and the curriculum. This assists students in orienting themselves toward the goal-setting phase of cultivating self-regulated learning strategies. Through the classroom objectives and the assessment criteria provided by the teacher, students gain a clear understanding of the learning tasks to be accomplished. They can set standards or goals and then adapt and regulate their cognition, motivation, and behavior to reach their goals (Pintrich, 2000).

Phase 2 *Teacher-led and joint construction*. This phase of instructional activities comprises three types of problems: foundational, key, and challenging. Teachers employ these problems to guide students in demonstrating proactive learning. By comparing their current level with the assessment criteria, they enhance their awareness of the gap between their self-knowledge and the knowledge required to complete the tasks, thus improving their self-regulated learning. Teacher-led writing and group writing are organized to assist students in employing targeted strategies for active learning in new tasks.

Phase 3 *Individual construction* entails controlling and regulating various aspects of the self, task, and context. During this stage, students address the practical problems presented by the teacher, during which they select and adapt strategies to resolve these real-world challenges. The teacher, in turn, employs evaluation criteria to enhance students' self-regulation and observation throughout the problem-solving process, encouraging them to utilize various strategies to accomplish the writing tasks.

Finally, phase 4, *Self-assessment and reflection*, corresponds to the extension problems among the five problems. Through reflection and self-evaluation, learners document their utilization of self-regulation strategies during the learning process and identify the extension question for their future learning.

While the four phases generally represent a time-ordered sequence that individuals typically go through when performing a task, it is not strongly assumed that the phases are hierarchically or linearly structured, where earlier phases must always occur before later phases (Pintrich, 2004). Similarly, the five problems serve as progressive drivers of the instructional process, but they also form a cyclical pattern where the extension problems can lead back to new foundational problem.

Data collection and analysis

Table 4

Phases and Procedure of data collection

Phases	Descriptions
1. Pre-study phases	All the participants were invited to complete pre-writing tests along with the Writing Strategies for Self-regulated Learning Questionnaire (WSSRLQ)
2. 16weeks intervention	All the participants received a 16-week Goal-problem-oriented instruction to implement different dimensions of SRL strategies.
3. Post-study phases	All the participants were invited to complete post-writing tests and the Writing Strategies for Self-regulated Learning Questionnaire (WSSRLQ). Furthermore, focus group interviews in Mandarin were done.

Procedures

At the start of the semester, all participants were asked to complete the WSSRL questionnaire to gather data on their self-reported use of self-regulated learning (SRL) strategies. The exact measurements were taken at the end of the intervention as part of the post-test. To assess the impact of instruction on writing performance, writing tests on given topics were administered to all participants both at the beginning and end of the intervention. Additionally, the researchers randomly selected six participants for focus group interviews to help understand their thoughts and experiences regarding this teaching method and their perception and utilization of SRL strategies in the writing process.

All participants were enrolled in a 16-week writing instruction program, with sessions conducted once a week for 90 minutes, aligned with the university's curriculum and syllabus. Notably, the integration of SRL strategies within regular writing instruction was emphasized, drawing from previous research in L1 contexts that demonstrated the systematic integration of SRL strategies to yield favorable outcomes (Harris et al., 2011).

Data analysis

The data collected from questionnaires and writing tests underwent a data cleaning process, where essential aspects such as normal distribution, missing values, and outliers were examined. Statistical analysis was then performed on the data to investigate any significant

statistical differences during the pre-test regarding writing ability and the usage of self-regulated learning strategies. Subsequently, the qualitative data were analyzed to explore the impact of the teaching intervention on students' writing text and perspectives regarding the teaching model.

To compare the differences between pre-test and post-test scores within the same group, the paired samples t-test was utilized to analyze whether there were significant differences in the writing scores of the same group of participants before and after the intervention (Kim, 2015).

The Wilcoxon signed-rank test is used to compare the differences between pre-self-report and post-self-report scores within the same group in the SRL questionnaire analysis. The Wilcoxon signed-rank test is a non-parametric statistical method for comparing related samples, such as measurements of the same group at different time points (Woolson, 2007).

To assess and examine the students' compositions, criteria adapted from Foley's work (Foley, 2011) were used. A content analysis of the interview was conducted to answer the second research question and provide a bigger picture for the self-report SRL questionnaire.

Results and Discussion

Writing Test

The study involved 69 participants who underwent a pre-test and a post-test to assess their writing skills. The average score on the pre-test was 65.19, indicating the initial level of proficiency in writing, with a standard deviation of 9.41, indicating the variability among the participants' scores.

After the intervention, the participants' writing skills were re-evaluated through a post-test. The average score on the post-test was 72.43, which demonstrated a noticeable improvement compared to the pre-test. The standard deviation for the post-test scores was 10.83, indicating some variability in the degree of improvement among the participants.

Table 5

Paired Samples t-tests of Writing Scores in the Pre-, Post-Writing Test

	N	Pre-test(T1)		Post-test(T2)		T1vsT2		
		M	SD	M	SD	t	p	Cohen's d
Writing	69	65.19	9.41	72.43	10.83	-8.912	<0.001	1.07

The results indicate that the intervention implemented between the pre-test and post-test significantly impacted the participants' writing scores. The average scores increased, and the observed effect size suggests that the improvement was meaningful in practical terms.

Self-regulation Writing Strategies

Table 6 shows the results of SRL strategies in pre-and-post self-report. The dimensions included in the analysis were Text Processing (TP), Idea Planning (IP), Goal-Oriented Monitoring and Evaluating (GME), Feedback Handling (FH), Motivational Self-Talk (MST), and Emotional Control (EC). Pre-test (T1) and post-test (T2) scores were collected and compared for each dimension.

Table 6

Descriptive Analysis of the SRL Strategies in the Pre- and Post-tests

	N	Pre-test(T1)		Post-test(T2)		T1vsT2		
		M	SD	M	SD	t	p	Cohen's d
TP	69	5.06	1.17	5.5	0.99	-3.414	0.001	0.41
IP	69	5.34	1.13	5.62	0.95	-1.891	0.063	0.23
GME	69	5.12	1.22	5.57	1.03	-3.194	0.002	0.38
FH	69	5.62	1.09	5.75	0.91	-0.859	0.393	0.10
MST	69	5.17	1.21	5.53	1.02	-2.464	0.016	0.30
EC	69	5.32	1.14	5.56	0.93	-1.74	0.086	0.21
TOTAL	69	5.27	0.94	5.59	0.76	-3.040	0.003	0.37

Considering the overall performance, the total score for all dimensions also exhibited a statistically significant improvement, with the mean increasing from 5.27 (SD = 0.94) at T1 to 5.59 (SD = 0.76) at T2 (t -value = -3.040, p = 0.003). The effect size (Cohen's d) for the total score was 0.37, indicating a moderate practical significance.

In summary, the findings suggest that the intervention had a positive impact on various dimensions of writing strategies, particularly in Text Processing (TP), Goal-Oriented Monitoring and Evaluating (GME), and Motivational Self-Talk (MST). Although not all dimensions showed statistically significant improvements, the effect sizes indicate at least a small practical significance.

Focus Group Interview

To answer research question 2: What are the perceptions and experiences of students regarding the effectiveness of the Goal-Problem-Oriented Teaching Mode in developing their self-regulated learning skills in EFL writing? Focus group interviews were carried out. The responses were recorded, and then they were transcribed and translated into English. A sample of three interview response are shown in the following section: Based on the analysis of the responses, two overarching themes emerged regarding students' perceptions of the Goal-problem-oriented SRL writing teaching mode:

Theme 1: Students' experience of the Goal-problem-oriented SRL writing teaching mode.(Q1-4)

Student from group 1: “新的教学方式，我可以更加明确写作的目标，我告诉自己在这节课结束后，我要学会说明文的结构是什么，我要能自己写出说明文的提纲。”

"The new teaching method allows me to set clearer goals for my writing. I tell myself that by the end of this class, I want to understand the structure of an expository essay and be able to create an outline for one on my own."--- (Clearer writing goals)

Student from group 3: “这种新的教学方法，让我更主动的进行写作的构思，在和同学一起写作中，我想积极的参与，提供我的价值。同时我也比以前更关注学习策略的使用。”

"This new teaching method has made me more proactive in my writing process. When working on collaborative writing tasks with my classmates, I actively participate and contribute my ideas. Additionally, I now pay more attention to the use of learning strategies compared to before."---(Increased attention to learning strategies)

Generally, participants perceive that the teaching mode has positively influenced their writing abilities, such as identifying strengths and weaknesses, implementing effective planning and self-monitoring strategies, and enhancing the overall quality of their writing.

Theme 2: Enhanced Engagement and Clarity in Writing Process.

Student from group 2:我现在对英语写作有更清晰的了解，我知道每一步要怎么做，以前我不知道从哪里开始，只想套模版，不想主动完成写作任务。

"Now, I have a clearer understanding of English writing. I know exactly what steps to take, whereas before, I didn't know where to begin and would simply rely on samples without actively completing the writing tasks."

Student from group 4:通这个新的教学方法，我在写作课堂上几乎可以一直保持积极的参与，不会走神，因为我要去解决老师给出的每一个问题，完成小组写作，以及最后我可以自己完成我自己的写作任务。

"Through this new teaching method, I can maintain active engagement in the writing class almost all the time. I stay focused and address every question the teacher presents, collaborate on group writing tasks, and ultimately, I can independently complete my own writing assignments."

The benefits of the teaching mode have been highlighted, particularly concerning the goal-problem-oriented approach. Participants appreciate the problem-solving focus of the teaching mode, finding the step-by-step approach beneficial in breaking down the writing process into manageable tasks. Additionally, participants emphasize that the teaching mode promotes critical thinking, problem-solving, and a deeper understanding of writing concepts. It enables them to develop their analytical skills and enhance their writing abilities.

Conclusions and Recommendations

After a 16-week intervention, all participants significantly improved their post-writing test scores, text structure, and linguistic features. Moreover, they exhibited enhanced engagement in employing diverse SRL strategies, particularly metacognitive strategies, indicating statistically significant advancement.

Regarding writing ability, the average scores increased, and the effect size observed indicates a meaningful improvement with practical implications. The findings revealed from the test analysis illustrated that students' understanding of the target genre structure and language features have been improved during the teaching intervention. The results of this study also align with the research conducted by Harris et al.(2011), which underscores the significance of self-regulation in the realm of writing.

It was discovered that there was a significant improvement in cognitive strategy, specifically in Task Planning (TP) as indicated by the p-value of 0.001 and a medium effect size of 0.41. This indicates that after the 16-week instructional intervention, students became more conscious of self-monitoring and adjusting their writing processes. At the metacognitive level, the post-test scores were notably higher than the pre-test scores, particularly in Goal-Oriented Monitoring and Evaluating strategies. This aligns with the characteristics of the problem-goal-oriented teaching mode, which involves setting clear goals and progressing through five progressively challenging problems. It also aligns with self-regulated learning (SRL), a dynamic process in which learners establish goals and monitor and control cognitive, meta-cognitive, emotional, motivational, behavioral, and environmental processes to achieve those goals(Zimmerman & Schunk, 2011).

Similarly, the motivational regulation strategy of Motivational Self-Talk (MST) showed a noteworthy improvement. The problem-oriented teaching mode employed by the teacher served as a guide and facilitator, utilizing strategically crafted questions as scaffolding to promote the use of self-speech by the learners. The self-speech effectively encouraged self-regulation and played a significant role in enhancing the learners' motivational strategies (Foley, 2012).

However, when comparing the pre- and post-intervention self-report data on social behavior, no significant differences were found. This finding contrasts with the observations made during participant interviews. During the interviews, it was observed that two students from Group Three and Group Four, respectively, demonstrated increased engagement in communication with both instructors and peers compared to their previous levels within the instructional framework. This inconsistency suggests a potential impact of the lack of emphasis on peer feedback. It underscores the importance of incorporating peer feedback into future writing instruction, aligning with Vygotsky's theory. Tasks and activities should be designed to provide opportunities for peer guidance in language usage, moving beyond mere oral interaction in the language(Vygotsky, 2016). This implies that fostering social interaction and collaborative learning environments can better support the development of social behavior in the context of writing instruction.

Increased awareness and self-regulation: Participants mention that the teaching mode has heightened their self-awareness during the writing process, allowing them to monitor and control their progress more effectively. They have become more independent in managing their writing and taking ownership of their learning.

In conclusion, the findings of this study demonstrate the positive impact of implementing the Goal-Problem-Oriented teaching mode in conjunction with Pintrich's self-regulation framework on students' English writing proficiency and their perceptions of SRL writing strategies. The study employed a mixed-methods research design, allowing for the collecting of both quantitative and qualitative data. The results contribute to the growing research on interventions that integrate SRL and writing instruction in EFL settings.

Unlike previous studies that focused on controlled settings or specific learner populations (Altas & Enisa, 2020; Teng & Zhang, 2020), this study took place in an authentic EFL classroom. This authentic context adds validity to the findings, making them more applicable to real-world teaching and learning situations.

However, it is vital to acknowledge the limitations of this study. The sample size was relatively small, and convenience sampling was employed, which may limit the generalizability of the results. Additionally, self-report measures were used to assess students' perceptions of SRL writing strategies, which may be subject to response biases.

Overall, this study contributes valuable insights into the effectiveness of combining SRL and writing instruction in an EFL classroom. It highlights the importance of authentic contexts and practical applications for enhancing students' English writing abilities and fostering their self-regulated learning skills.

References

- Akhmedjanova, D., & Moeyaert, M. (2022). *Self-regulated writing of English learners: intervention development* [Paper presented].the Frontiers in Education.
- Altas, E. A., & Enisa, M. (2020). The impact of flipped classroom approach on the writing achievement and self-regulated learning of pre-service english teachers. *Turkish Online Journal of Distance Education*, 22(1), 66-88.
- Csizér, K., & Tankó, G. (2017). English majors' self-regulatory control strategy use in academic writing and its relation to L2 motivation. *Applied linguistics*, 38(3), 386-404.
- Dent, A. L., & Koenka, A. C. (2016). The relation between self-regulated learning and academic achievement across childhood and adolescence: A meta-analysis. *Educational psychology review*, 28, 425-474.
- Dignath, C., & Büttner, G. (2008). Components of fostering self-regulated learning among students. A meta-analysis on intervention studies at primary and secondary school level. *Metacognition and Learning*, 3, 231-264.
- Education, T. G. (2020). *The College English Teaching Guide*. The Guidance Committee for Foreign Language Teaching in Higher Education Institutions of the Ministry of Education
- Flower, L., & Hayes, J. R. (1981). Plans that guide the composing process. *Writing: The nature, development, and teaching of written communication*, 2, 39-58.
- Foley, J. (2011). *Grammar meaning and discourse*. Assumption University Thailand.

- Foley, J. (2012). *Second language acquisition. social & psychological dimensions.*
- Greasley, K., & Ashworth, P. (2007). The phenomenology of 'approach to studying': The university student's studies within the lifeworld. *British Educational Research Journal*, 33(6), 819-843.
- Greene, J. A., Bolick, C. M., Caprino, A. M., Deekens, V. M., McVea, M., Yu, S., & Jackson, W. P. (2015). Fostering high-school students' self-regulated learning online and across academic domains. *The High School Journal*, 99(1), 88-106.
- Harris, K. R., Graham, S., MacArthur, C., Reid, R., & Mason, L. H. (2011). Self-regulated learning processes and children's writing. *Handbook of self-regulation of learning and performance*, 187-202.
- Hirvela, A. (2017). Argumentation & second language writing: Are we missing the boat?. *Journal of Second Language Writing*, 100(36), 69-74.
- Huang, Y., & Jun Zhang, L. (2020). Does a process-genre approach help improve students' argumentative writing in English as a foreign language? Findings from an intervention study. *Reading & Writing Quarterly*, 36(4), 339-364.
- Hussain, R., Raza, A., Siddiqi, I., Khurshid, K., & Djeddi, C. (2015). A comprehensive survey of handwritten document benchmarks: structure, usage and evaluation. *EURASIP Journal on Image and Video Processing*, 2015(1), 46.
- Johnson, R. B., & Christensen, L. (2019). *Educational research: Quantitative, qualitative, and mixed approaches.* Sage publications.
- Kim, T. K. (2015). T test as a parametric statistic. *Korean journal of anesthesiology*, 68(6), 540-546.
- Krueger, R. A. (2014). *Focus groups: A practical guide for applied research.* Sage publications.
- Li, Y., & Tian, X. (2018). An Empirical Research into the Reliability of iWrite 2.0. *Moder Educational Technology*, 28(2), 75-80.
- Luan, L., & Dong, L. (2022). Reliability of Automated Essay Scoring Systems and their Implications for University English Writing Instruction: A Comparative Analysis between iWrite System Scoring and Human Scoring. *Journal of Higher Education*, 6(2), 1-28.
- Mak, P., & Wong, K. M. (2018). Self-regulation through portfolio assessment in writing classrooms. *Elt Journal*, 72(1), 49-61.
- Mullen, C. (2011). Facilitating self-regulated learning using mentoring approaches with doctoral students. In B. J. Zimmerman & D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 137-152). Routledge/Taylor & Francis Group.
- Pintrich, P. R. (2000). *The role of goal orientation in self-regulated learning.* Academic Press.
- Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational psychology review*, 16(4), 385-407.
- Sun, T., & Wang, C. (2020). College students' writing self-efficacy and writing self-regulated learning strategies in learning English as a foreign language. *System*, 90, 102221.
- Teng, L. S., & Zhang, L. J. (2016). A questionnaire based validation of multidimensional models of self-regulated learning strategies. *The modern language journal*, 100(3), 674-701.
- Teng, L. S., & Zhang, L. J. (2020). Empowering learners in the second/foreign language classroom: Can self-regulated learning strategies-based writing instruction make a difference?. *Journal of Second Language Writing*, 48, 100701.

- Vygotsky, L. S. (2016). *The collected works of LS Vygotsky: Problems of general psychology, including the volume thinking and speech*. Springer.
- Wang, Z. Y., Xu, Y. J., Zhou, R. J., & Liu, M. (2022). Practice and Research of Problem-Oriented Teaching Mode. *Journal of HEIHE University*, 1(1), 75-77.
- Winne, P. H. (2005). A perspective on state-of-the-art research on self-regulated learning. *Instructional science*, 33(5/6), 559-565.
- Wong, J., Baars, M., Davis, D., Van Der Zee, T., Houben, G.-J., & Paas, F. (2019). Supporting self-regulated learning in online learning environments and MOOCs: A systematic review. *International Journal of Human-Computer Interaction*, 35(4-5), 356-373.
- Woolson, R. F. (2007). *Wilcoxon signed rank test*. Wiley encyclopedia of clinical trials.
- Zhang, L. J., Thomas, N., & Qin, T. L. (2019). Language learning strategy research in System: Looking back and looking forward. *System*, 84, 87-92.
- Zimmerman, B. J. (2008). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American educational research journal*, 45(1), 166-183.
- Zimmerman, B. J., & Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. *American educational research journal*, 31(4), 845-862.
- Zimmerman, B. J., & Schunk, D. H. (2011). *Self-regulated learning and performance*. Routledge.